"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000721710018-4

KHAL'FAN, Yuriy Arkad'yevich, inzh.; ILARIONOV, V.A., red.

[Braking characteristics of an automobile] Tormoznye kachestva avtomobilia. Moskva, Transport, 1965. 78 p. (MIRA 18:10)

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000721710018-4"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000721710018-4

KHAL'FAN, Yu., inzh.

Remodeling of the "Moskvich-407" automobile. Avt.transp. 39 no.3:35-38 Mr '61. (MIRA 14:3)

1. Moskovskiy zavod malolitrazhnykh avtomobiley.
(Automobiles--Design and construction)

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000721710018-4"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000721710018-4

SHUROV, S.V., kandidat ekonomicheskikh nauk; KHALFEN, A.A., nauchnyy sotrudnik.

Economic problems of rural electric power plants. Nauka i pered. op. v sel'khoz. 6 no.11:11-15 N '56. (MIRA 10:1)
(Electric power plants)

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000721710018-4"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000721710018-4

BYSTRITSKIY, D.N.; KHALFEN, A.A.; CHINILOVA, Z.K.

Distribution of electric loads in populated areas of collective farms. Sbor. nauch.-tekh. inform. po elek. sel'khoz. no.7:44-47 '59. (MIRA 13:9)
(Electric power distribution)

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000721710018-4"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000721710018-4

KHALFEN, A.A., ekonomist

Methodology for calculating the profit margin of rural hydroelectric power stations. Nauch. trudy VIESKH 7:116-127 '60.
(MIRA 15:8)

(Rural electrification) (Hydroelectric power stations)

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000721710018-4"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000721710018-4

DIDENKO, A.M., inzh.; KORZH, M.I., inzh.; KISEL', P.S., inzh.; KHALFEN, A.Z., inzh.

Cavitation damages in the cylinder sleeves of engines. Mashinostroenie no.3:95-97 My-Je '65. (MIRA 18:6)

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000721710018-4"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000721710018-4

KHALFEN, CH.

"Des formes rares du ventre aigu." Khalfen, Ch. (p. 633)

SO: Journal of General Chemistry (Zhurnal Obshchei Khimii) 1940, Volume 18, no. 1.

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000721710018-4"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000721710018-4

KHALFEN, E., and MIR-SALIMOV, M.

"On the Influence of Ionizing Radiation on the Condition of the Central Nervous System" a paper presented at the Transcaucasion Radiological Conference, Tbilisi, Nov. 55.

TR166004

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000721710018-4"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000721710018-4

KHALFEH, E. Sh.

24343 KHALFEH, E. Sh. Gil'-ABI i ego primeneniye v klinike, Doklady (Akad. nauk azerbaydzh. SSR), 1949, No. 6, S. 236-41. - Rezyume na azerbaydzh. Yaz.

SO: Letopis, No. 32, 1949.

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000721710018-4"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000721710018-4

KHALFEN, E. Sh.

Occupational Diseases

Dissertation: "Question on the Electrical Conductivity and Local Reactivity of the Skin in Brucellosis." Cand Med Sci, Azerbaydzhan State Medical Inst, 11 Mar 54. (Bakinskiy Rabochiy, Baku, 2 Mar 54).

SO: SUM 213, 20 Sep 54.

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000721710018-4"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000721710018-4

GUSMAN, S.M., prof., KHALFEN, E.Sh., kand.med.nauk (Baku)

Ballistocardiogram of healthy subjects. Klin.med. 36 no.8:98-105 Ag '58 (MIRA 11:9)

1. Iz kafedry vnutrennikh bolezney (ispolnyayushchiy obyazannosti zav. kafedry - prof. S.M. Gusman) Azerbaydzhanskogo instituta usovershenstvovaniya vrachey (dir. M.I. Aliyev).
(BALLISTOCARDIOGRAPHY,
of healthy subjects (Rus))

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000721710018-4"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000721710018-4

GUSMAN, S.M., prof.; KHALFEN, E.Sh., kand.med.nauk

Clinical significance of a ballistocardiographic study. Azerb.med. zhur. no.9:36-40 S '59. (MIRA 13:1)

1. Iz kafedry vnutrennikh bolezney (i.o.zav. kafedroy - prof. S.M. Gusman) Azerbaydzhanskogo gosudarstvennogo instituta usovershenstvovaniya vrachey (i.o. direktora - dotsent D.B. Mustafayev).
(BALLISTOCARDIOGRAPHY)

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000721710018-4"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000721710018-4

GUSMAN, S.M., prof.; KHALFIN, B.Sh., kand.med.nauk (Baku)

Ballistocardiographic changes in clinically normal subjects following physical effort and after smoking [with summary in English]. Terap. arkh. 31 no.1:46-52 Ja '59. (MIRA 12:2)

1. Iz kafedry terapii Azerbaydzhanskogo instituta usovershenstvovaniya vrachey.

(BALLISTOCARDIOGRAPHY,
eff. of exercis & smoking in normal subjects (Rus))
(EXERCISE, eff.
on ballistocardiography in normal subjects (Rus))
(SMOKING, effects,
same)

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000721710018-4"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000721710018-4

KHALFEN, E.Sh., kand.med.nauk

Treatment of stenocardia through the cutaneous receptor zones. Terap. arkh. 31 no.10:25-30 O '59. (MIRA 13:3)

1. Iz kafedry vnutrennikh bolezney (zaveduyushchiy - prof. S.M. Gusman) Azerbaydzhanskogo instituta usovershenstvovaniya vrachey.
(REFLEXOTHERAPY)
(ANGINA PECTORIS ther.)

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000721710018-4"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000721710018-4

KHALFEN, E.Sh., kand.med.nauk

Clinical significance of studying skin pain sensitivity in some diseases of the internal organs. Azerb. med. zhur. no.11:22-27 N '61.
(MIRA 15:2)

1. Iz kliniki vnutrennikh bolezney (zav. - prof. S.M.Gusman) Azerbaydzhanskogo gosudarstvennogo instituta usovershenstvovaniya vrachey (rektor - prof. A.M.Aliyev).
(PAIN) (SKIN)

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000721710018-4"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000721710018-4

KHALFEN, E.Sh., doktor med.nauk; YATSENKO, K.S., dotsent; KHAMPIYEV, A.Kh.

Mathomatical evaluation of the prognosis in patients with myocardial infarct. Sov.med. 28 no.4:151-154 Ap '65.

(MIRA 18:6)

1. Gospital'naya terapevticheskaya klinika (zav. - doktor med. nauk E.Sh.Khalfen) Astrakhanskogo meditsinskogo instituta.

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000721710018-4"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000721710018-4

KHALFEN, E.Sh., doktor med.nauk; YATSENKO, K.S., dotsent; KHAMPIYEV, A.Kh.

Significance of age and sex in evaluating the prognosis in myocardial infarction. Azerb.med.zhur. 42 no.1:60-63 Ja '65. (MIRA 18:5)

1. Iz kafedry gospital'noy terapii (zav. - doktor med.nauk E.Sh. Khalfen) Astrakhanskogo gosudarstvennogo meditsinskogo instituta (rektor - dotsent I.N.Alamdarov).

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000721710018-4"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000721710018-4

L 2895-66 EWT(d)/EWT(m)/EPF(c)/EWA(d)/EWP(v)/T/EWP(t)/EWP(k)/EWP(h)/EWP(z)/EWP(b)/EWP(1) MJW/JD/DJ

ACCESSION NR: AP5023346 UR/0304/65/000/005/0030/0032

621.910.71

AUTHORS: Baykalov, A. K. (Candidate of technical sciences); Khalfen, R. V. (Engineer)

TITLE: High productivity finish turning of heat resistant steels at high feeds

SOURCE: Mashinostroyeniye, no. 5, 1965, 30-32

TOPIC TAGS: finish turning, metal turning, metal cutting / OKh18N10T steel, EP 167 steel, 7 alloy, EI 943 alloy, VK6M alloy, VK4 alloy

ABSTRACT: To evaluate high productivity finish turning (class 6-8) of cylindrical parts, pipes of steels OKh19N10T, EP-167, and alloys EI-943 and 7 were finish turned at high feed rates (2-16 mm/rev) with cutting tools as shown in Fig. 1 on the Enclosure. The work was done at the Laboratoriya rezaniya Ukrainskogo instituta sverkhtverdykh materialov (Machining Laboratory of the Ukrainian Institute of Extremely Hard Metals). The maximum feed rate for various classes of finish can be calculated from

$$S < \frac{2,6}{\lg\lambda} \cdot \sqrt{\Delta (D - 2t)} \text{ mm/rev}$$

Card 1/4

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000721710018-4

2

(for class 6 finish) and $S < \frac{2\pi\sqrt{\Delta(D-2t)}}{tg\lambda\left[\pi-\sqrt{\Delta(D-2t)}\right]}$ mm/rev

(for 7 and 8 finish), where R_z = maximum permissible irregularity in mm. It was found that chromium-nickel austenitic steels as well as most plastic titanium steels could be turned to a 6-8 class finish at feeds of up to 16 mm/rev. The following particulars are mentioned: alloy VK6M is best for chromium-nickel steel turning and alloy VK4 for titanium steels; lubrication is essential (5% oil emulsion or 5% soap solution); cutting tool geometry--front and rear angles 10°, cutting edge 10-45° depending on material and lathe stiffness; cutting depth must be less than 0.05-0.1 mm for class 7-8 and 0.5-1.0 mm for class 6 finish; cutting speeds of 100-120 m/min and 80-100 m/min for Cr-Ni and Ti steels respectively correspond to 15-minute tool life; for OKh18N10T feed rate can be found from

$$v = \frac{217}{T^{0,29}t^{0,261}S^{0,034}} \text{ mm/min}$$

(for v = 100-200 m/min, t = 0.1-0.5 mm, S = 0.3-6.0 mm/rev) for alloy 7 from

$$v = \frac{142}{T^{0,28}t^{0,21}S^{0,128}} \text{ mm/min}$$

$$v = \frac{C}{T^{0,67}}$$

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000721710018-4"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000721710018-4

L 2895-66

ACCESSION NR: AP5023346

(80-120, 0.1-0.5, 0.3-6 respectively). Orig. art. has: 2 tables, 1 figure, and 4 formulas.

ASSOCIATION: none

SUBMITTED: 00 ENCL: 01 SUB CODE: IE, MM

NO REF SOV: 000 OTHER: 000

Card 3/4

Cutting region geometry

Card 4/4

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000721710018-4

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000721710018-4

TA 24/49T83

KHALFEN, Sh. S.

USSR/Medicine - Dysentery, Complications Aug 48
Medicine - Intestines, Bacteriology

"Rare Postdysenteric Complications," Prof Sh. S. Khalfen, Dir, Chair of Infectious Diseases, Azerbaydzhan State Inst for Advancement of Doctors, 1½ pp

"Sov Med" No 8

Discusses such frequent complications as peritonitis, stenosis of the large intestine, intraintestinal complications, etc. Cites several case histories of peritonitis complications, and methods for treating patients.

24/49T83

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000721710018-4"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000721710018-4

KHALFEN, SH. S.

Khalfen, Sh. S. - "Current problems in the diagnosis of chronic dysentery", (In index" Sh. A. Khalfen), Vracheb. delo, 1949, No. 4, paragraphs 315-18.

SO: U-4329, 19 August 53, (Letopis 'Zhurnal 'nykh Statey, No. 21, 1949).

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000721710018-4"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000721710018-4

KHALFEN, Sh.S.

Clinical peculiarities of dysentery. Zhur.mikrobiol.epid. i immun. no.8:103 Ag '55. (MLRA 8:11)
(DYSENTERY)

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000721710018-4"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000721710018-4

USSR/Medicine - Dysentery FD-3316

Card 1/1 : Pub 148-12/24

Author : *Khalfen, Sh. S.

Title : On insufficiently detected sources of bacterial dysentery

Periodical : Zhur. mikro. epid. i immun. 10, 52-55, Oct 1955

Abstract : Examinations of persons who had recovered from acute dysentery or other acute gastro-intestinal diseases showed that 5% of them were still carrying the causative bacteria and should have been classed as chronically diseased, even though no dysfunctions of the gastro-intestinal tract were apparent. In order to prevent this, the authors recommend that careful examinations be made while the disease is in progress and for up to a year after the patient has been discharged from the hospital. No references are cited.

Institution : Infectious Diseases Clinic (Head-Prof. Sh. S. Khalfen*), Azerbaydzhan State Institute for the Advanced Training of Physicians (Director - M. I Aliyev)

Submitted : January 10, 1955

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000721710018-4"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000721710018-4

KHALFEN, Sh. S., prof.

Causes of insufficient effectiveness of control of dysentery.
Sov. med. 19 no.11:83-84 N '55. (MIRA 9:1)

1. Iz kliniki infektsionnykh bolezney(zav.-kafedroy-prof. Sh. S. Khalfen) Azerbaydzhanskogo instituta usovershenstvovaniya vrachey (dir. M.L. Aliyev)
(DYSENTERY, BACILLARY, prevention and control, in Russia, causes of ineffectiveness)

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000721710018-4"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000721710018-4

KHALFEN, Sh.S., prof.; KULIYEV, M.M., kand.med.nauk (Baku)

Effective method for treating typhoid fever with synthomycin.
Vrach.delo supplement '57:71-72 (MIRA 11:3)

1. Klinika infektsionnykh bolezney (zav.-prof. Sh.S.Kalfen) Azerbaydzhanskogo instituta usovershenstvovaniya vrachey i klinicheskaya bol'nitsa im. Dzhaparidze.
(CHLOROMYCETIN) (TYPHOID FEVER)

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000721710018-4"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000721710018-4

KHALFEN, Sh.S., professor; PAKUSINA, O.V.

Functional state of the pancreas in epidemic parotitis. Sov.med. 21 no.3:121-122 Mr '57. (MLRA 10:7)

1. Iz kafedry infektsionnykh bolezney (zav. - prof. Sh.S.Khalfen) Azerbaydzhanskogo instituta usovershenstvovaniya vrachey (dir, M.I. Aliyev)

(MUMPS, manifestations
pancreas)
(PANCREAS, in various dis.
mumps)

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000721710018-4"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000721710018-4

KHALFEN, Sh.S., doktor med.nauk, prof. (Baku)

"Cardiovascular system in communicable diseases" by K.V.Bunin.
Reviewed by Sh.S.Khalfen. Terap.arkh. 29 no.11:92-93 N '57.
(COMMUNICABLE DISEASES) (MIRA 11:2)
(CARDIOVASCULAR SYSTEM--DISEASES)
(BUNIN, K.V.)

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000721710018-4"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000721710018-4

KHALFEN, SH. S.

"On the rational treatment of chronic dysentery patients."

report submitted at the 13th All-Union Congress of Hygienists, Epidemiologists and Infectionists, 1959.

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000721710018-4"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000721710018-4

ABDULLAYEV, D.M., prof.; KHALFEN, Sh.S., prof.

Epidemiology, clinical aspects, and treatment of influenza. Azerb. med. zhur. no.2:60-65 F '59. (MIRA 12:3)
(INFLUENZA)

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000721710018-4"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000721710018-4

ABDULLAYEV, D.M., prof., zasluzh.deyatel' nauki; KHALFEN, Sh.S., prof.

Botkin's disease. Azerb.med.zhur. no.6:51-56 Je '59.
(MIRA 12:9)

(HEPATITIS, INFECTIOUS)

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000721710018-4"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000721710018-4

KHALFEN, Sh.S., prof.; SHAKOV, I.I.; SHTIVEL', Ye.A.; PAKUSINA, O.V.; FILIMONOVA, V.A. (Baku)

Pneumonia in influenza during the 1957 pandemic [with summary in English]. Terap.arkh. 31, no.1:77-82 Ja '59. (MIRA 12:2)

1. Iz infektsionnoy kliniki i kafedry rentgenologii Azerbaydzhanskogo instituta usovershenstvovaniya vrachey.
(INFLUENZA, compl.
pneumonia (Rus))
(PNEUMONIA, etiol. & pathogen.
influenza (Rus))

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000721710018-4"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000721710018-4

KHALFEN, Sh.S., ~~prof.~~ (Baku)

"Treatment of infectious diseases" edited by G.P.Rudnev. Reviewed by Sh.S.Khalfen. Klin.med. 37 no.6:158-160 Je '59. (MIRA 12:8)

(COMMUNICABLE DISEASES) (RUDNEV, G.P.)

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000721710018-4"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000721710018-4

KHALFEN, Sh.S., prof.

Material on the epidemiology, clinical aspects, and prevention of influenza in 1957 and 1959 in the Baku oil region. Vop. virus. 5 no. 6:752 N-D '60. (MIRA 14:4)
(BAKU REGION—INFLUENZA)

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000721710018-4"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000721710018-4

KHALFEN, Sh.S.

Asymptomatic carrying of the causative agents of dysentery. Zhur. mikrobiol. epid i immun. 31 no.6:107-108 Je '60. (MIRA 13:8)

1. Iz Azerbaydzhanskogo instituta usovershenstvovaniya vrachey.
(DYSENTERY)

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000721710018-4"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000721710018-4

KHALFEN, Sh.S.

Clinical and epidemiological characteristics of present-day influenza in the Lenin District of Baku. Azerb. med. zhur. no.6:80-85 Je '61. (MIRA 14:6)

(BAKU--INFLUENZA)

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000721710018-4"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000721710018-4

KHALFEN, Sh. S., prof.; SHAKOV, I. I., dotsent

So-called pseudopolyposis of the terminal segment of the large intestine. Khirurgiia 37 no.7:119-122 Jl '61.
(MIRA 15:4)

1. Iz kafedry infektsionnykh bolezney (zav. - prof. Sh. S. Khalfen) i kafedry rentgenologii (zav. - dotsent I. I. Shakov) Azerbaydzhanskogo instituta usovershenstvovaniya vrachey.

(INTESTINES--TUMORS)

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000721710018-4"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000721710018-4

KHALFEN, Sh.S.

Differential diagnosis of jaundices of various etiology.
Azerb. med. zhur. no.6:53-58 Je '62. (MIRA 17:8)

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000721710018-4"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000721710018-4

KHALFEN, Sh.S., prof.

Differential diagnosis of dysentery and cancer of the rectum.
Sov. med. 25 no.2:94-98 F '62. (MIRA 15:3)

1. Iz infektsionnoy kliniki (zav. - prof. Sh.S. Khalfen) Azerbaydzhanskogo gosudarstvennogo instituta usovershenstvovaniya vrachey (dir. - prof. A.M. Aliyev).
(DYSENTERY) (RECTUM—CANCER)
(DIAGNOSIS, DIFFERENTIAL)

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000721710018-4"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000721710018-4

KHALFEN, Sh.S., prof.; KULIYEV, M.M., dotsent

Contemporary clinical aspects and treatment of typhoid fever.
Azerb. med. zhur. no.10:67-72 O '62.

(MIRA 17:10)

1. Iz kliniki infektsionnykh bolezney (zav. - prof. Sh. S. Khalfen) Azerbaydzanskogo gosudarstvennogo instituta usovershenstvovaniya vrachey (rektor - prof. A.M. Aliyev [deceased]).

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000721710018-4"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000721710018-4

KHALFEN, Sh.S., prof.; TAGIYEVA, N.B., kand.med. nauk; VINOGRADOVA, A.G.

Importance of determining the activity of transaminases, aldolase, phosphatase, and the heterohemagglutination reaction in some forms of Botkin's disease. Sov.Med. 27 no.7:102-105 Jl'63. (MIRA 16:9)

1. Iz Kliniki infektsionnykh bolezney (zav. - prof. Sh.S. Khalfen) Azerbaydzhanskogo instituta usovershenstvovaniya vrachey.
(HEPATITIS, INFECTIOUS) (ENZYMES)
(BLOOD--AGGLUTINATION)

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000721710018-4"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000721710018-4

KHALFEN, Sh. S., prof. (Baku)

Differential diagnosis of mechanical jaundice and Botkin's disease. Klin. med. 41 no.2:65-70 F'63 (MIRA 17:3)

1. Iz infektsionnoy kliniki (zav. - prof. Sh.S.Khalfen) Azerbaydzhanskogo instituta usovershenstvovaniya vrachey.

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000721710018-4"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000721710018-4

KHALFEN, Sh.S., prof.

Diagnosis of some atypical forms of Botkin's disease. Sov. med. 28 no.4:68-72 Ap '64. (MIRA 17:12)

1. Infektsionnaya klinika Azerbaydzhanskogo instituta usovershenstvovaniya vrachey imeni A.M. Aliyeva, Baku.

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000721710018-4"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000721710018-4

KHALFEN, Sh.S., prof.

Diagnosis of some atypical forms of Botkin's disease. Vop.med. virus. no.9:355-359 '64. (MIRA 18:4)

1. Iz infektsionnoy kliniki Azerbaydzhanskogo instituta usovershenstvovaniya vrachey.

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000721710018-4"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000721710018-4

KHALYKH, Sh.S.; GERBUT, F.N.

Epidemiology of epidemic hepatitis (botkin's disease). Zhur. mikrobiol., epid. i immun. 42 no.11:124-126 N '65.

(MIRA 19:1)

1. Azerbaydzhanskiy institut [illegible].

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000721710018-4"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000721710018-4

KHALFEN, Sh. S., prof.

Some unsolved problems of epidemic hepatitis. Azerb. med. zhur. 42 no. 10:53-58 O '65 (MIRA 19:1)

1. Iz infektsionnoy kliniki Azerbaydzhanskogo instituta usovershenstvovaniya vrachey (rektor - kand. med. nauk B.M. Agayev). Submitted November 16, 1964.

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000721710018-4"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000721710018-4

N/5
653.012
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Khalfin, A M

Osnovy televizionnoy tekhniki [Principles of television technology]

Moskva, Izd-vo Sovetskoye Radio, 1955.

579 p. Diagrs.

"Ukazatel' Literatury": p. 563 - [569]

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000721710018-4"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000721710018-4

Name: KHALFJN, A.M.
Title: engineer

Author of book, "Mechanical and Electronic Television." This book covers the following topics: theory and basic methods of television, including electronic television, synchronization and distortion; principles of constructing televisors with instructions, etc. This book is primarily for radio amateurs.

REF: R. F. #7, p.63, 1938

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000721710018-4"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000721710018-4

KHALFIN, A. M.

A. M. KHALFIN, "Information and energy estimate of television transmission by "error signal" and by "new values" Scientific Session Devoted to "Radio Day", May 1958, Trudrezervizdat, Moscow, 9 Sep. 58

As is known, the basic statistical peculiarity of television signals is their high redundance. The strong correlation between signals of adjacent elements, lines and frames. Information theory indicates the possibility of constructing a considerably more effective television transmission system than is standard at present. However, systems based on the use of statistical redundancy have not yet emerged from the theoretical and laboratory investigation stages because of technical difficulties.

Among the simplest methods of decorrelating a television signal are systems with "error signal" and "new values" transmissions. An estimate is given of the entropy in these systems for an exponential error signal distribution and equally probable levels of the quantized initial signal.

The entropy for the transmission of an "error signal" and for a large number of quantized brightness levels is not only independent of the number of gradations, as was shown by Oliver in1952, but it depends slightly on the probability of zero error. The reason for this is in the assumption of the mutual independence of the "error Signals".

The energy gain in transmitting "error signals" is estimated. The dependence of the gain on the number of quantization levels and the probability of zero error is analyzed. The result of the estimates is compared to experimental results obtained by Harrison.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000721710018-4

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D053/D113

6,6000

AUTHOR: Khalfin, A.M., and Krasnov, V.N.

TITLE: Peculiarities of television systems with an "ideal" camera tube

PERIODICAL: Tekhnika kino i televideniya, no. 7, 1961, 26-33

TEXT: The paper, read at a session of the NTORiE in May 1960, is concerned with the evaluation of the information carrying capacity of a TV system with an ideal camera tube, i.e. a tube containing a real photoelectron cathode which does not add any noise to the shot noise of the photoelectron emission. The purpose of this work is to furnish a quantitative comparison of the ideal system with systems in which the noise level does not depend on the signal magnitude. All values pertaining to the ideal camera tube are marked with a superscript (′). According to the Schottky formula, the mean-square value of shot fluctuations (i_s) is

$$i_s'^2 = 2 \cdot i_{ph} \cdot e \cdot \Delta f = \frac{e \cdot i_{ph}}{T} ; \quad (1)$$

Card 1/5

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000721710018-4

Peculiarities of television systems ....

where i_{ph} is the saturation photocurrent proportional to the brightness E of the given picture element; e is the electron charge; Δf is the frequency band passed by the system; and T is the averaging or storage time. It follows that the noise level increases in proportion to $\sqrt{i_{ph}}$ or $\sqrt{E}$. The signal-noise ratio is

$$\Psi = \frac{i_{ph}}{\sqrt{i_s^{-2}}} = \sqrt{\frac{i_{ph} \cdot T}{e}} \quad ; \qquad (4)$$

and the corresponding ratio of the ideal camera tube:

$$\Psi' = l \cdot \sqrt{\frac{\varepsilon' \cdot T \cdot E'}{e}} \quad ; \qquad (5)$$

where ε' is the photocathode sensitivity; and l^2 is the surface in sq. m. of a single picture element having a brightness E', measured in luxes. A comparison of the information carrying capacity of the systems revealed that

$$\Psi_m = 2\Psi'_m \quad ; \qquad (34)$$

Card 2/5

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000721710018-4

Peculiarities of television systems ....

where Ψ_m is the maximum value of the white-level signal. This means that, where both systems have an equal information carrying capacity, the signal-noise ratio in the ideal system is two times less than in the other system. A testing technique and a test table, based on the results of this comparison, can be developed for testing systems similar to ideal systems. The quantity of the visually perceptive information can be increased by a gamma corrector. The operating characteristic of this gamma corrector is described by

$$E'_{out}(u) = E'_{min} \cdot e^{r\sqrt{u}} \quad ; \tag{49}$$

where E'_{out} is the output and E'_{min} is the minimum brightness; u is the signal magnitude; and

$$r = \frac{2K_c}{\sqrt{A \cdot S}} \quad ; \tag{48}$$

where K_c is the contrast sensitivity threshold; S is the ratio of signal fluctuation (Δu) to brightness fluctuation ($\Delta E'$) in a linear system;

Card 3/5

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000721710018-4

Peculiarities of television systems ....

and the value of A is

$$A = \frac{e\chi_0^2}{\varepsilon' \cdot l^2 \cdot T} \quad ; \qquad (23)$$

where χ_0 is the probability factor of the noise distribution. The dependence $\frac{E'_{out}}{E'_{min}}$ versus $r^2 u$ is plotted in Fig. 1. There are 1 figure and 13 references: 10 Soviet-bloc and 3 non-Soviet-bloc. The 3 references to English-language publications read as follows: G.A. Morton and J.E. Roody, The Intensified Orthicon, Proc. 2-nd National Convention of Electronics, June, 1958; A.S. Rose, Advances in Electronics, 1948, I, 131-166; C.E. Shannon and W. Weaver, The Mathematical Theory of Communication, 1949.

Card 4/5

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000721710018-4"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000721710018-4

KHALFIN, A.M.

Resolving the power of television systems. Radiotekhnika 16 no.11:45-58 N '61. (MIRA 14:10)

1. Deystvitel'nyy chlen Nauchno-tekhnicheskogo obshchestva radiotekhniki i elektrosvyazi imeni Popova.
(Television)

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000721710018-4"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000721710018-4

ORLOVSKIY, Ye.L.; KHALFIN, A.M.; KHAZOV, L.D.; ZAVARIN, G.D.; KRUSSER, B.V.; SHCHELOVANOV, L.N.; TARANTSOV, A.V., red.; KUKOLEVA, T.V., red.; SMUROV, B.V., tekhn. red.

[Theoretical principles of electrical transmission of images; television and phototelegraphy]Teoreticheskie osnovy elektricheskoi peredachi izobrazhenii; televidenie i fototelegrafiia. [By] E.L.Orlovskii i dr. Pod obshchei red. A.V.Tarantsova. Moskva, Sovetskoe radio. Vols. 1 - 2. 1962. (MIRA 15:10)
(Television) (Phototelegraphy)

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000721710018-4"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000721710018-4

KHALFIN, A.M.

Potentialities for the increase of the contrast sensitivity of television cameras; author's abstract. Usp.nauch.fot. 10:146-147 '64.
(MIRA 17:10)

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000721710018-4"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000721710018-4

KORYTOV, N.V., kand.tekhn.nauk; KHALFIN, M.Ya., inzh.

Calculating the power characteristics of ships on an air cushion.
Sudostroenie 28 no.9:7-12 S '62. (MIRA 15:10)
(Ground cushion machines) (Ship propulsion)

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000721710018-4"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000721710018-4

BAYRAKOV, Yu. V., KHALFIN, B. I.

Professor, Engineer.

"A Study of Transference Numbers of Ions in the Fusion of Potassium Chloride—Magnesium Chloride", Tsvet. Met. 14, No 8, August 1939.

Report U-1506, 4 Oct. 1951.

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000721710018-4"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000721710018-4

KHALFIN, E.P.

Most probable value of the viscosity of water near 20°C. Trudy VNIIM no.5:4-21 '47. (MIRA 12:1)
(Water) (Viscosity)

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000721710018-4"

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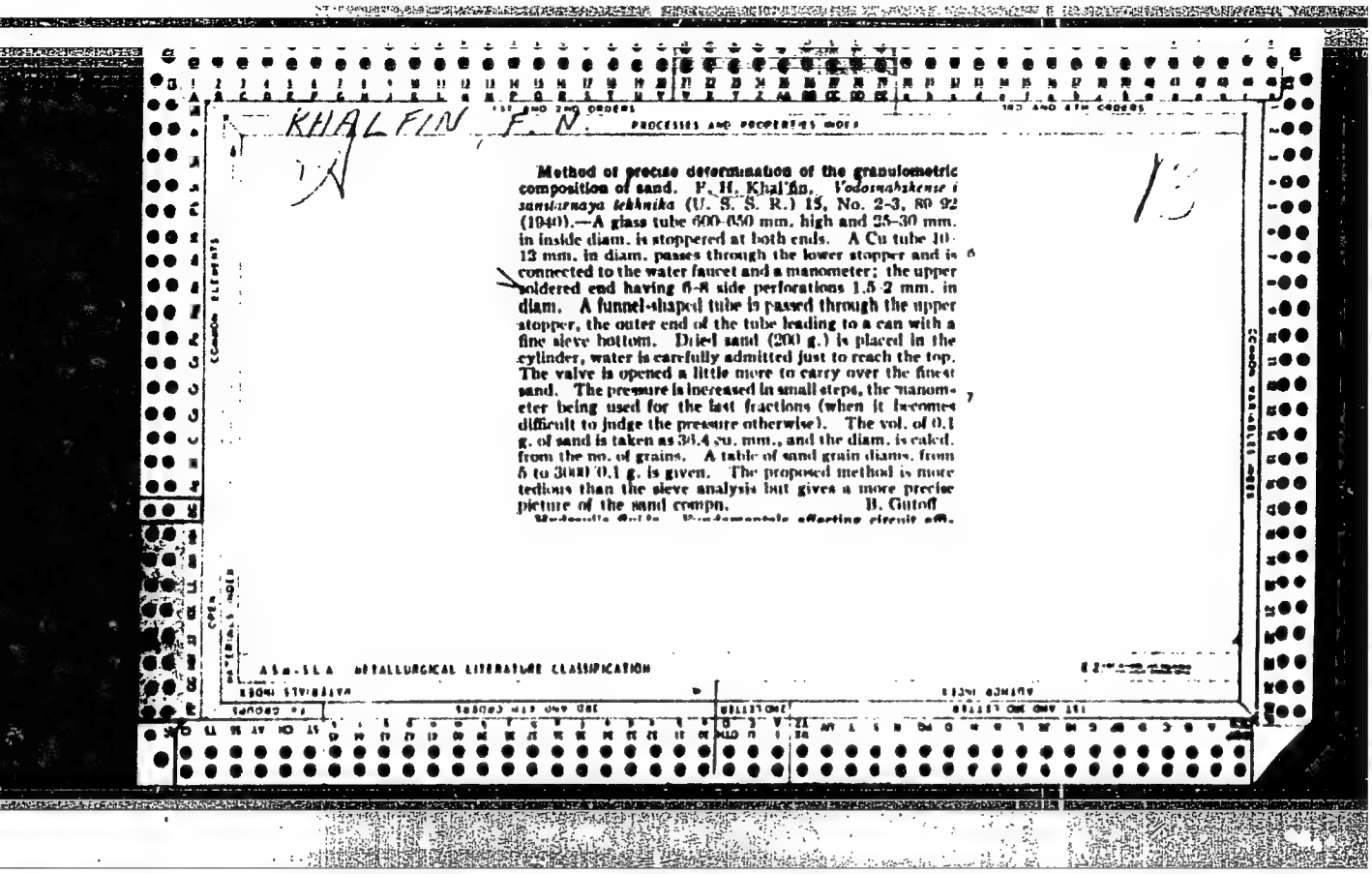

KHALFIN F. N.

PROCESSES AND PROPERTIES INDEX

Method of precise determination of the granulometric composition of sand. F. H. Khal'fin. *Vodosnabzhenie i sanitarnaya tekhnika* (U. S. S. R.) 15, No. 2-3, 89-92 (1940).—A glass tube 600-650 mm. high and 25–30 mm. in inside diam. is stoppered at both ends. A Cu tube 10-13 mm. in diam. passes through the lower stopper and is connected to the water faucet and a manometer; the upper soldered end having 6-8 side perforations 1.5-2 mm. in diam. A funnel-shaped tube is passed through the upper stopper, the outer end of the tube leading to a can with a fine sieve bottom. Dried sand (200 g.) is placed in the cylinder, water is carefully admitted just to reach the top. The valve is opened a little more to carry over the finest sand. The pressure is increased in small steps, the manometer being used for the last fractions (when it becomes difficult to judge the pressure otherwise). The vol. of 0.1 g. of sand is taken as 39.4 cu. mm., and the diam. is calcd. from the no. of grains. A table of sand grain diams. from 5 to 3000 0.1 g. is given. The proposed method is more tedious than the sieve analysis but gives a more precise picture of the sand compn. B. Gutoff

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000721710018-4

SOV/124-57-4-4291

Translation from: Referativnyy zhurnal. Mekhanika, 1957, Nr 4, p 62 (USSR)

AUTHOR: Khal'fin, F. N.

TITLE: The Investigation of a Model of the Head Regulating Structure of the Main Irrigation Canal of the Vetlyanskoye Reservoir (Issledovaniye modeli golovnogo regulyatora magistral'nogo orositel'nogo kanala Vetlyanskogo vodokhranilishcha)

PERIODICAL: Tr. Kuybyshevsk. inzh.-stroit. in-ta, 1956, Nr 3, pp 105-111

ABSTRACT: An investigation of a regulator consisting of a tower structure with stop logs and an overlapping flashboard gate, a reinforced-concrete spillway tunnel, and a stilling basin.

Reviewer's name not given.

Card 1/1

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000721710018-4"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000721710018-4

KHAL'FIN, Fabian Naumovich, kand.tekhn.nauk, dots.; KICHIGIN, Vladislav Vital'yevich, inzh.; YEGORSHILOV, L.A., red.; MODLIN, G.D., tekhn.red.

[Spanning the Ob River during the construction of the Novosibirsk Hydroelectric Power Station] Perekrytie Obi pri stroitel'stve Novosibirskogo gidrouzla. Kuibyshev, Orgenergostroi, 1957. 21 p. (MIRA 11:4)

(Novosibirsk Hydroelectric Power Station)

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000721710018-4"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000721710018-4

KHAL'FIN, F.N., kandidat tekhnicheskikh nauk.

Scouring of bonded soils. Gidr. stroi 23 no.4:40-42 '54.(MLRA 7:7)
(Erosion)

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000721710018-4"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000721710018-4

KHAL'FIN, F.N.; FOMINYKH, A.M.

Purification of industrial waste waters in the Kuybyshev Petroleum Refinery. Izv. vys. ucheb. zav.; neft' i gaz 6 no.4: 111-113 '63. (MIRA 16:7)

1. Kuybyshevskiy inzhenerno-stroitel'nyy institut.
(Kuybyshev—Petroleum waste)

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000721710018-4"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000721710018-4

KHAL'FIN, L.N.; [illegible]

Reagent method for the final purification of petroleum-refinery waste waters. Izv. vys. ucheb. zav.; neft' i gaz 6 no.8:103-105 '63. (MIRA 17:6)

1. Kuybyshevskiy inzhenerno-stroitel'nyy institut.

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000721710018-4"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000721710018-4

KHAL'FIN, F.N.; FOMINYKH, A.M.

Water stabilization in a system of return water supply in a petroleum refinery. Izv. vys. ucheb. zav.; neft' i gaz 7 no.3:68,74 '64. (MIRA 17:6)

1. Kuybyshevskiy inzhenerno-stroitel'nyy institut.

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000721710018-4"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000721710018-4

KHAL'FIN, F.N.; ATAKOV, N.A.

Increasing the heat-exchange capacity of the cooling coils of the return water-supply system of petroleum refineries. Izv. vys. ucheb. zav.; neft' i gaz 8 no.2:117-119 '65.
(MIRA 18:3)

1. Kuybyshevskiy inzhenerno-stroitel'nyy institut.

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000721710018-4"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000721710018-4

KHALFIN, L.A.

Monotony of the law of decay of unstable particles corresponding to the pole of the nth order. Pis'. v red. Zhur. eksper. i teoret.fiz. 2 no.3:139-142 Ag '65.

(MIRA 18:12)

1. Leningradskoye otdeleniye Matematicheskogo instituta imeni Steklova AN SSSR. Submitted June 12, 1965.

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000721710018-4"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000721710018-4

KHALFIN, L.A.

Quantum theory of the decay of unstable elementary particles. Dokl. AN SSSR 162 no.5:1034-1037 Je '65. (MIRA 18:7)

1. Leningradskoye otdleniye Matematicheskogo instituta im. V.A. Steklova AN SSSR. Submitted December 22, 1964.

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000721710018-4"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000721710018-4

KHALFIN, L.A.

Problem of the foundation of statistical physics, and the quantum theory of decay. Dokl. AN SSSR 162 no.6:1273-1276 Je '65. (MIRA 18:7)

1. Leningradskoye otdeleniye Matematicheskogo instituta im. V.A. Steklova AN SSSR. Submitted March 19, 1965.

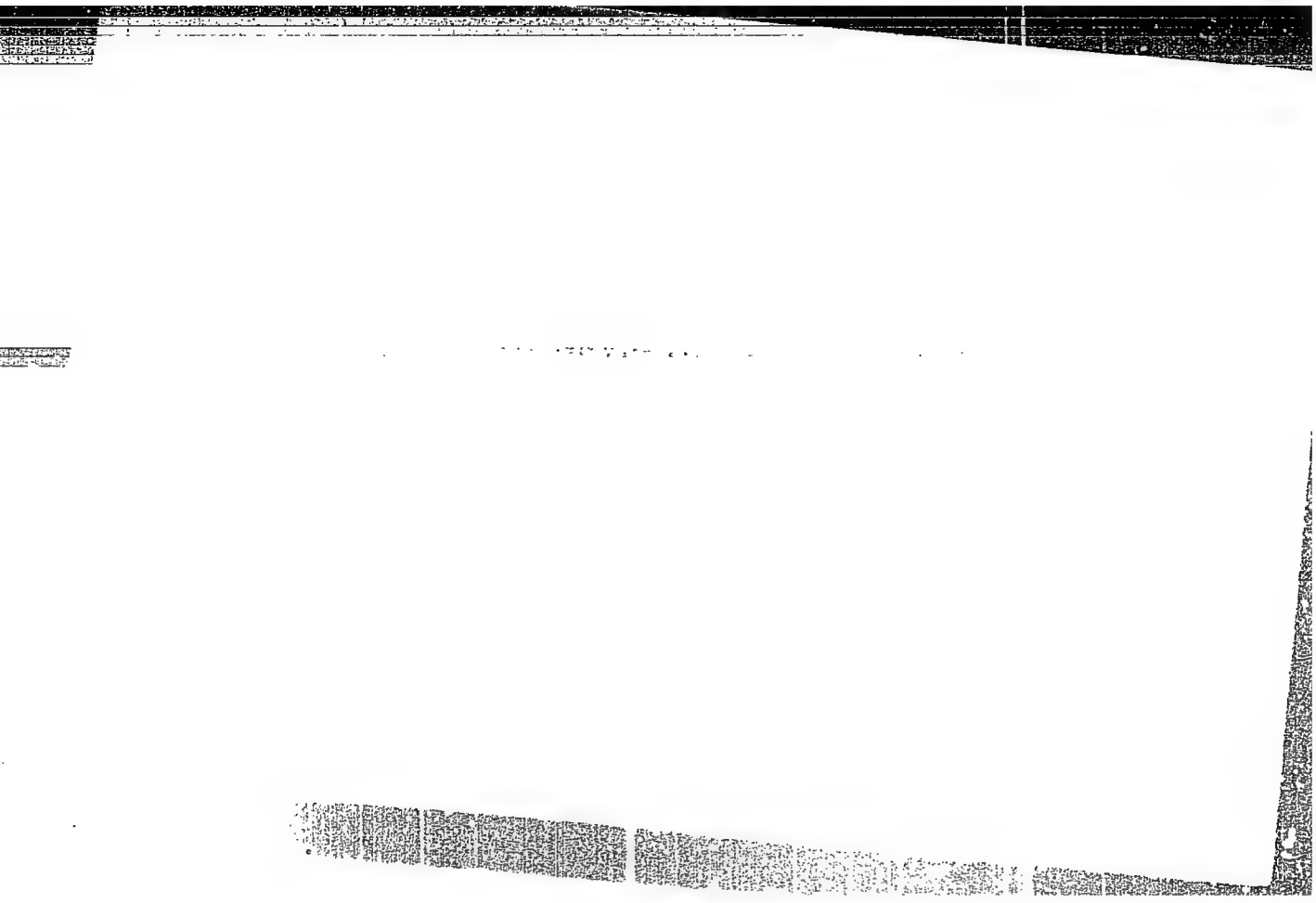
APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000

KHALFIN, L.A.

Statistical approach to approximate calculation methods. Effective quadrature formulae. Dokl. AN SSSR. 144 no.6:1229-1232 Je '62. (MIRA 15:6)

1. Leningradskoye otdeleniye Matematicheskogo instituta im. V.A. Steklova Akademii nauk SSSR. Predstavleno akad. V.I. Smirnovym. (Mathematical statistics) (Approximate computation)

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000721710018-4



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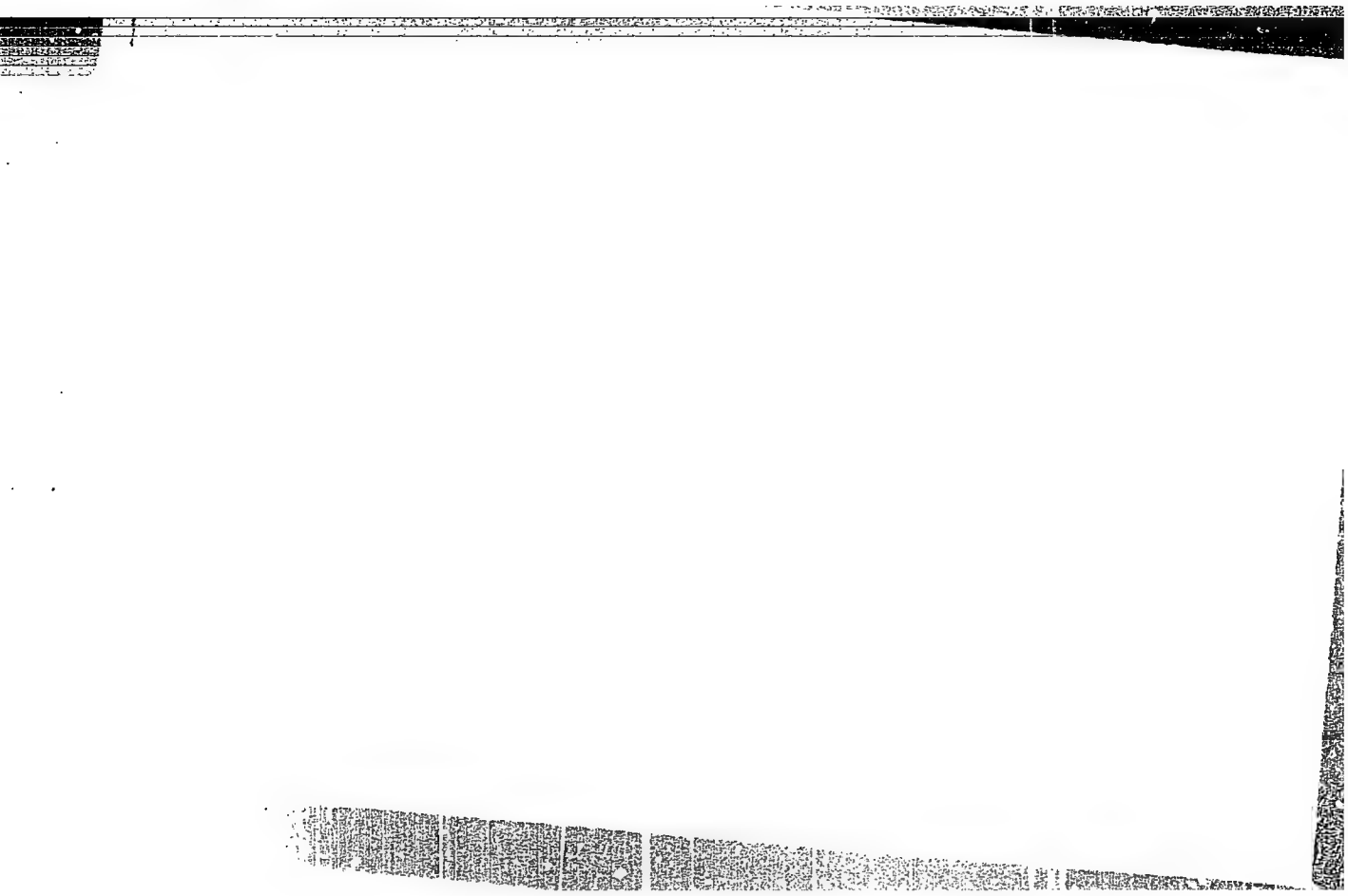

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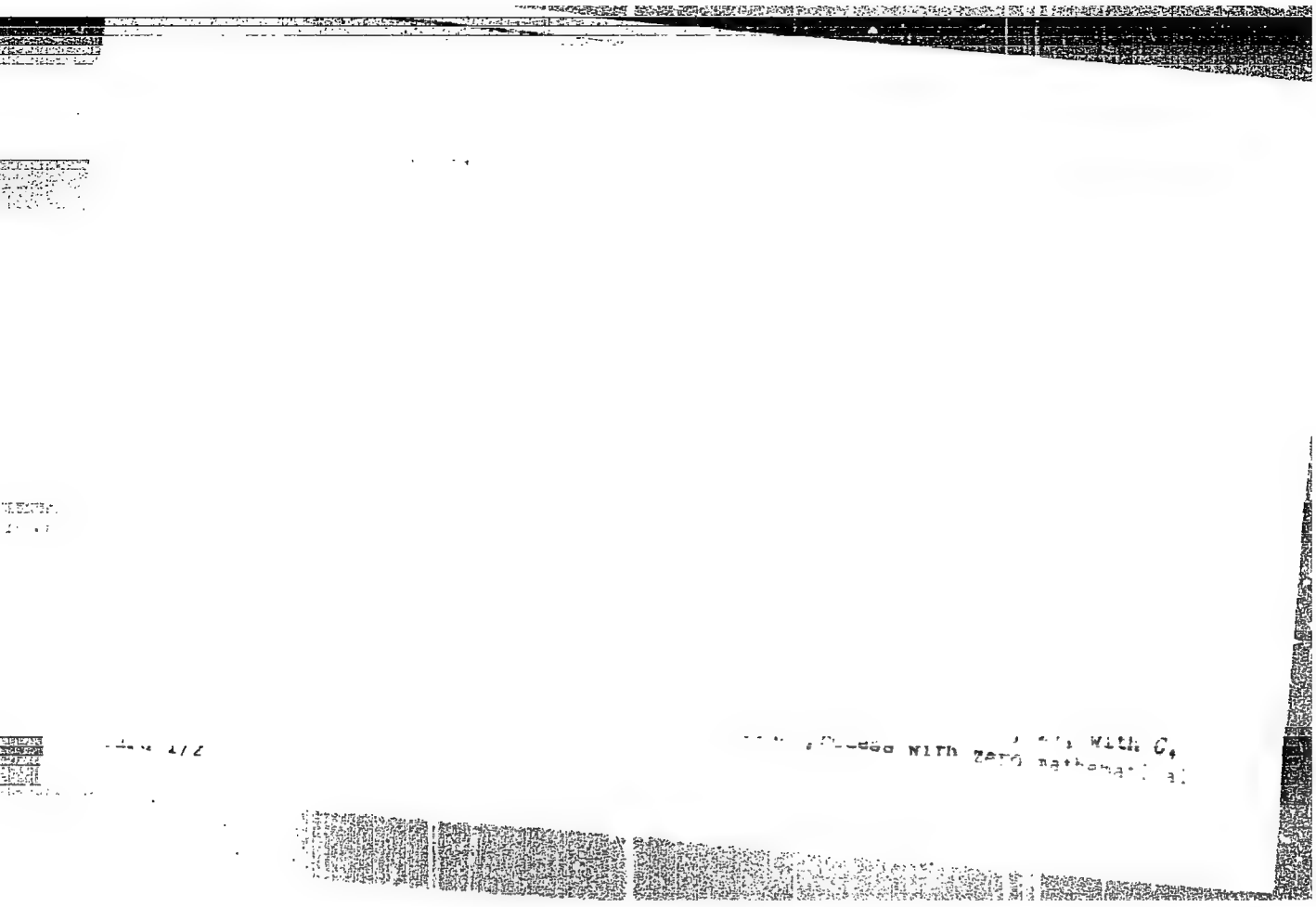

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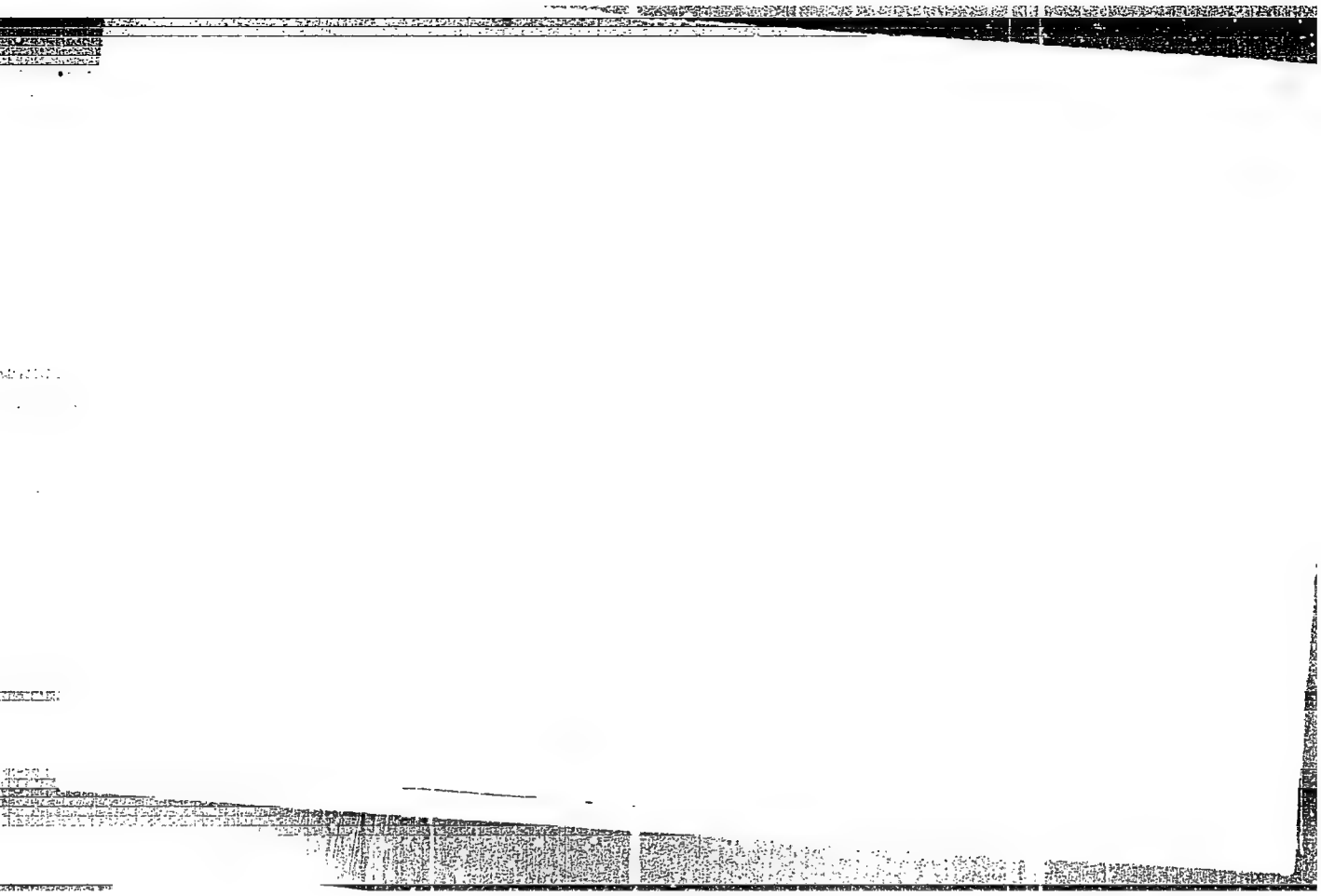

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000721710018-4

KHALFIN, L.A.

Quantum theory of unstable elementary particles. Dokl. AN SSSR 165 no.3:541-544 N '65. (MIRA 18:11)

1. Leningradskoye otdeleniye Matematicheskogo instituta im. V.A. Steklova AN SSSR. Submitted April 5, 1965.

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000721710018-4"

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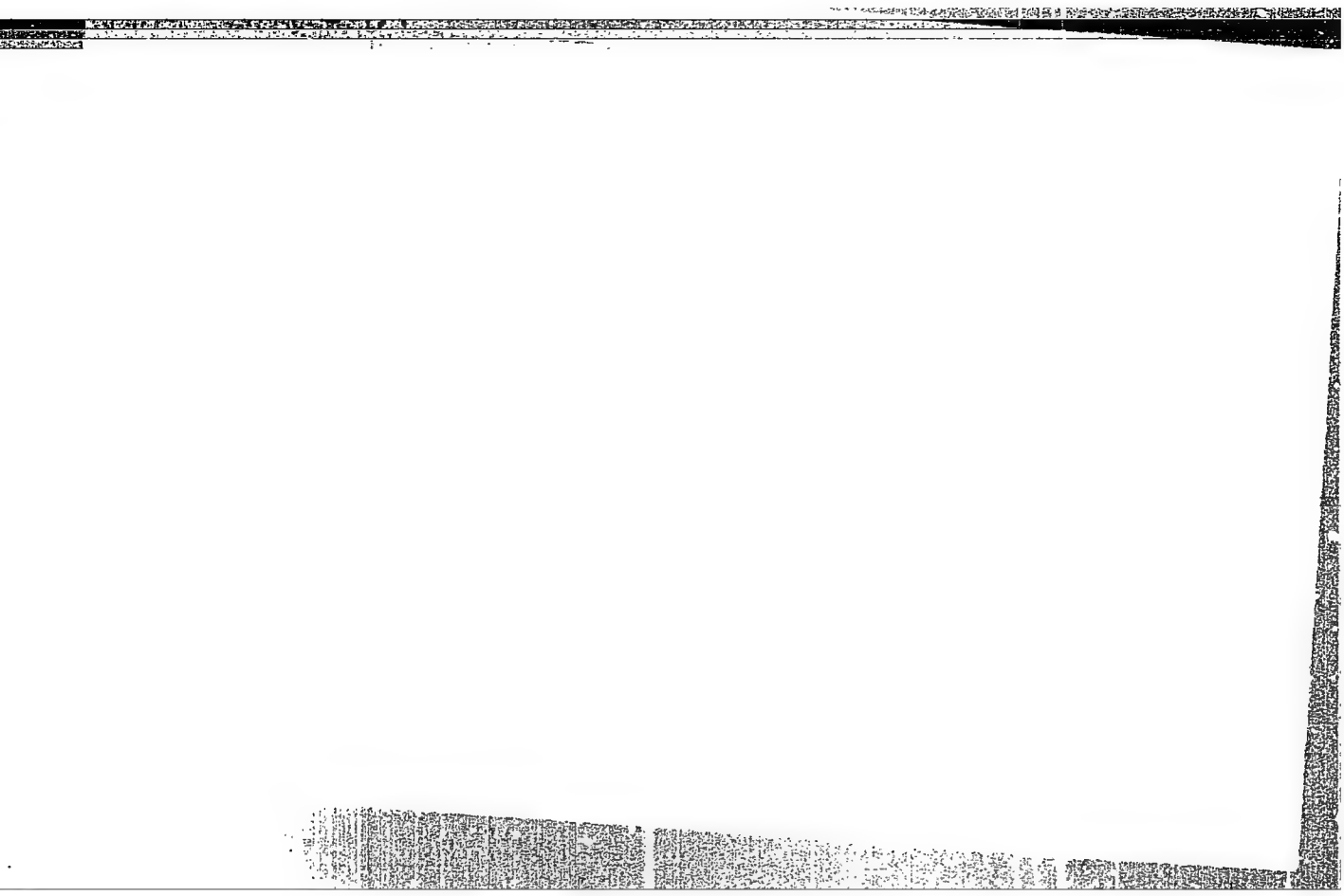

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000721710018-4

KHALFIN, L.A.

Field of a point source in the presence of a semispheriodal hollow. Izv.AN SSSR.Ser.geofiz. no.10:1200-1206 O '56. (MLRA 10:1)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut razvedochnoy geofiziki. (Prospecting--Geophysical methods)

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000721710018-4"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000721710018-4

NOVOZHILOV, Yu.V.; KUNI, F.M.; KHALFIN, L.A.

On the method of intermediate coupling in the theory of mesons.
Vest. Len.un. 11 no.4:51-68 F '56. (MLRA 9:7)
(Mesons)

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000721710018-4"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000721710018-4

F N L A

Category : USSR/Theoretical Physics - Classical Electrodynamics B-3

Abs Jour : Ref Zhur - Fizika, No 3, 1957, No 5617

Author : Khalfin, L.A.
Title : Remarks Concerning the Method of Introducing the Interaction with the External Electromagnetic Field.

Orig Pub : V. stn. Leningr. un-ta, 1956, No 10, 39-42

Abstract : To limit the forms of interaction with the electromagnetic field, one employs the requirement of the gradient invariance. The analysis is carried out for the case of classical mechanics. The same example is used, on the basis of quite general requirements, to show that it is possible to prove the uniqueness of the form of the interaction term. Assuming that a) the interaction terms depends only the potentials A and is independent of the field intensity, and b) that introducing the interaction does not increase the order of the equations of motion, the author proves the uniqueness of the form usually employed for the term of the interaction with the electromagnetic field. The proof is based on using the necessary and sufficient

Card : 1/2

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000721710018-4

KHALFIN, L.A.

Physical invariability of quantization. Vest.len.un.11 no.22:12-17 '56. (MLRA 10:2)

(Quantum theory)

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000721710018-4"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000721710018-4

KHALFIN, L.A.

SUBJECT USSR / PHYSICS CARD 1 / 2 PA - 1906
AUTHOR CHALFIN,L.A.
TITLE The Condition of Causality and the Criterion of the Physical Realizability in the Quantum Theory of the Field.
PERIODICAL Dokl.Akad.Nauk,111, fasc.2, 345-347 (1956)
Issued: 1 / 1957

The present work investigates a further general consequence of the causality principle. The criterion investigated is called "criterion of physical realizability" in analogy to a criterion of theoretical radiotechnology. The basic idea is here demonstrated on the basis of a model case: The amplitude of scattering in a forward direction was expressed by a FOURIER integral: $f(E)=\int_{-\infty}^{\infty} F(t)e^{iEt}dt$, where $F(t)$ satisfies a "causality principle" of the form $F(t)=F(t)$ with $t > 0$; $F(t) = 0$ with $t \leqslant 0$. With this "causality principle being valid, the function $f(E)$ in the half-plane $ImE > 0$ is guaranteed to be analytical, and therefore it is possible, on the basis of CAUCHY'S theorem, to derive a dispersion relation between the real part and the imaginary part of the function $f(E)$. A function: $F_1(t) = F(-t)=(1/2\pi)\int_{-\infty}^{\infty} f(E)e^{iEt}dE$ is introduced, which satisfies the"causality principle": $F_1(t) = 0, t > 0$; $F_1(t) = F_1(t)$, $t < 0$. $f(E)$ is represented as the product of the modulus $\Psi(E)$ with the phase factor $e^{i\varphi}$ (E): $F_1(t)=(1/2\pi)\int_{-\infty}^{\infty}\Psi(E)$

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000721710018-4

AUTHOR: KHALFIN, L.A.

TITLE : A-U Sci Conf dedicated to "Radio Day", Moscow, 20-25 May 1957. "Information Theory of Geophysical Methods of Investigation," "Signal Theory,"

PERIODICAL: Radiotekhnika i Elektronika, Vol. 2, No. 9, pp. 1221-1224, 1957, (USSR)

For abstract see L.G. Stolyarov.

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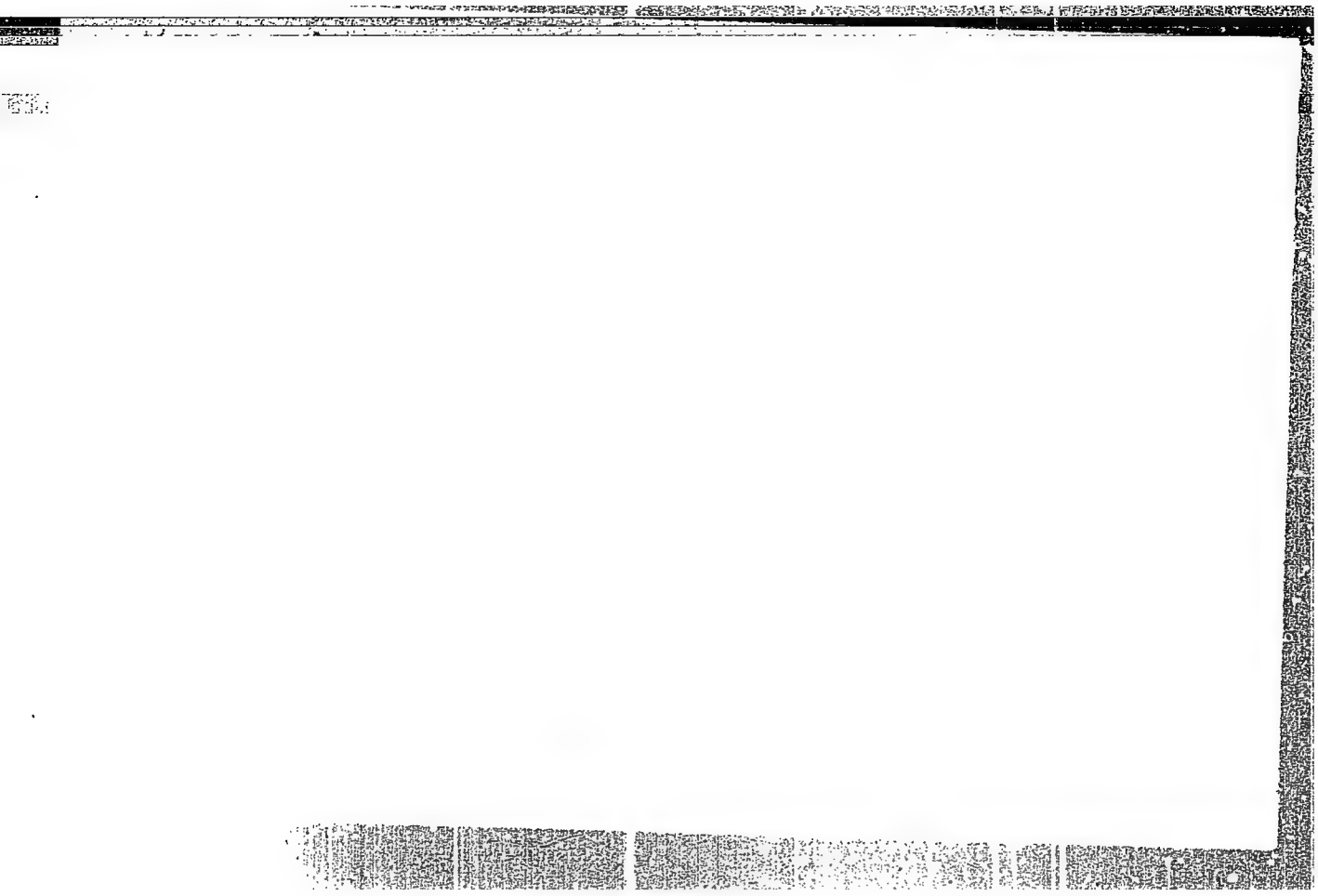

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KHALFIN, L.A.

Causuality condition and criterion of physical realizability [with summary in English]. Vest. LGU 12 no.16:5-18 '57. (MIRA 10:11)
(Quantum theory) (Electrodynamics)

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000721710018-4

KHALFIN, L.A.

56-6-9/47

AUTHOR: Khalfin, L. A.

TITLE: On the Theory of the Decay of a Quasi-Steady State (K teorii raspada kvazistatsionarnogo sostoyaniya)

PERIODICAL: Zhurnal Eksperimental'noy i Teoreticheskoy Fiziki, 1957, Vol. 33, Nr 6, pp. 1371 - 1382 (USSR)

ABSTRACT: The theory of the decay of a Quasi-Stationary State is further developed in 3 principal chapters, i.e. : 1.) The principal basis of the theory of the decay of a quasi-steady state and the results obtained by the work of reference 1. 2.) General "relations of dispersion" in the decay theory. 3.) Formulation and investigation of the criteria for the physical justification of the decay theory. 4.) Final "relations of dispersion" and their corresponding utilization.
The relations of dispersion are derived on the basis of the energy distribution $\omega(E)$.
It is shown that for all $\Gamma t/\hbar$ the exponential law of decay is not satisfied. Corrections to the exponential law of decay are calculated on the basis of the most simple conditions.
Generally, it is true that the results obtained are based only upon

Card 1/2

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56-6-9/47

On the Theory of the Decay of a Quasi-Steady State

the general state of the quantum theory and do not depend upon the model of the decaying system. There are 8 references, 6 of which are Slavic.

SUBMITTED: April 23, 1957

AVAILABLE: Library of Congress

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000721710018-4

KHALFIN. L. A.

20-2-22/62

AUTHOR: Khalfin, L.A.

TITLE: On the Theory of the Decay of a Quasi-Stationary State (K teorii raspada kvazistatsionarnogo sostoyaniya)

PERIODICAL: Doklady Akademii Nauk SSSR, 1957, Vol. 115, Nr 2, pp. 277 - 280 (USSR)

ABSTRACT: The present paper investigates some problems of the decay of a quasi-stationary state. The theory investigated here is of great importance in the investigation of the α-decay, the passage of particles through potential barriers, the distribution of the energy level of a nucleus etc. The wave function $\psi_o = \psi(x,0)$ describe the state of the physical system at the moment $t = 0$. The probability for the fact that the system after the lapse of the time t is still in the state ψ_o is expressed by the formula $L(t) = |p(t)|^2$, where $p(t) = \int e^{-(i/\hbar)Et}\,\omega(E)dE$ applies. $\omega(E)$ means here the density of the energy distribution in the initial state. When only the pair of poles of the function $\omega(E)$ which lie next to the real axis is taken into account

Card 1/3

20-2-22/62

On the Theory of the Decay of a Quasi-Stationary State

$(E = E_o \pm \Gamma\,;\ E_o > 0;\ \Gamma > 0)$, the formula $L(t) = e^{-(2\Gamma/\hbar)t}$ gives the usual decay law of a quasi-stationary state. In this case

$$\omega(E) = \frac{1}{\pi}\,\frac{\Gamma}{(E - E_o)^2 + \Gamma^2}$$

and this is the usual dispersion formula of the energy distribution. For the further investigations some fundamental formulae are precisely defined. In all formulae the integration is carried out according to the energy over the domain of the continuous spectrum $E \in (0, \infty)$, so that $p(t) = \int_0^\infty e^{-(i/\hbar)Et}\,\overline{\omega}(E)dE$ applies. Since the distribution function $\overline{\omega}(E)$ is "semidefinite", the real part and the imaginary part of the function p(t) are connceted with each other by an integral "dispersion relation". Such relations are explicitely given here. A further consequence of the "semi-definite quality" of $\overline{\omega}(E)$ is a criterion for the mudulus M(t) of the function p(t). This criterion is of direct physical importance and permits different conclusions on the function M(t). There are 5 Slavic references.

Card 2/3

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20-2-22/62

On the Theory of the Decay of a Quasi-Stationary State

ASSOCIATION: All-Union Scientific Research Institute for Prospecting Geo-Physics (Vsesoyuznyy nauchno-issledovatel'skiy institut razvedochnoy geofiziki)

PRESENTED BY: V.A. Fok, Academician, January 20, 1957

SUBMITTED: January 23, 1957

AVAILABLE: Library of Congress

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000721710018-4

Khalfin, L.A.

49-58-3-11/19

AUTHOR: Khalfin, L.A.

TITLE: A Radiolocation Method of Geophysical Surveying with Accumulation of Signals and Temporary Selectivity (Radiolokatsionnyy metod geofizicheskoy razvedki s nakopleniyem i vremennoy selektsiyey)

PERIODICAL: Izvestiya Akademii Nauk SSSR, Seriya Geofizicheskaya, 1958, Nr 3, pp.374-378 (USSR)

ABSTRACT: The radiolocation method of surveying cannot be used immediately since electromagnetic waves are damped almost completely in the surface layers, so that the useful signal is drowned by the background noise. The absorption is increased at high frequencies by dispersion. The radiolocation method has, however, the advantage that radiation can be made directional so that it is possible to study details instead of the overall effect - as is necessitated in other methods. Since the object under measurement is stationary the disadvantage of low signal strength can be overcome by accumulation of the reflected signal. If there is no dispersion present the electrodynamic parameters do not depend on frequency and the absorption increases with frequency. The author now shows briefly that the absorption coefficient in

Card 1/3

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A Radiolocation Method of Geophysical Surveying (Cont.)

an arbitrary medium cannot increase with frequency very rapidly, and the useful signal is not equal to zero even at high frequencies. Ordinary geophysical methods of signal accumulation do not increase the resolving power but only the overall sensitivity. The apparatus used by the author consisted of an antenna in contact with the ground, a distributor, a transmitter, a synchronizer, a receiver, a cumulative register and recording equipment. At a given moment, the synchronizer sends an impulse of given duration to the antenna where it is emitted in a given direction. The reflected signal, smaller than the extraneous noise, enters the receiver after a delay - corresponding to the distance away of the measured object - and is recorded in the cumulative register. After a certain interval of time the whole cycle is repeated and this is continued until the reflected signal intensity passes that of the background noise. Good definition can be obtained with a sufficiently short impulse. The author finally gives a brief theory of the method. This depends upon the useful signal strength being constant, but since its dispersion is a good deal less than the dispersion of the background noise, fluctuations are unimportant. The theory given also holds for the corresponding ultrasonic

Card 2/3

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A Radiolocation Method of Geophysical Surveying (Cont.)

method. There are 3 figures and 4 Russian and 1 Hungarian references.

ASSOCIATION: All-Union Research Institute of Surveying Geophysics (Vsesoyuznyy nauchno-issledovatel'skiy institut razvedochnoy geofiziki)

SUBMITTED: February 4, 1957.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000721710018-4

SOV-46-4-3-9/18

AUTHORS: Khaykovich, I. M. and Khalfin, L. A.

TITLE: On the Effective Dynamical Parameters of Non-Homogeneous Media in the Propagation of Sonic Waves (Ob effektivnykh dinamicheskikh parametrakh neodnorodnykh sred pri rasprostranenii zvukovykh voln)

PERIODICAL: Akusticheskiy Zhurnal, 1958, Vol 4, Nr 3, pp 275-281 (USSR)

ABSTRACT: The propagation of sound in a uniform medium in which small spheres are suspended is investigated. The suspended spheres form a cubic 'lattice'. If the density of the spheres is not too high then such a two-component medium may be treated as a uniform medium having certain effective parameters which depend upon the parameters of the two materials and the geometry of the system. Formulae are derived for the effective velocity of propagation (Eq.22), density (Eq.26) and the specific thermal conductivity (Eq.27). These effective parameters characterise the properties of the medium when it is traversed by plane monochromatic sonic waves. The density and the specific thermal capacity may be complex. The wavelength is assumed to be much greater than the radius of the spheres (outside the spheres). Within the spheres themselves no limitation

Card 1/3

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On the Effective Dynamical Parameters of Non-Homogeneous Media in the Propagation of Sonic Waves

is placed upon the wavelength. The parameters of the 2-component medium depend on frequency, while the parameters of the holding medium and of the material of the spheres do not depend upon it. It is shown that if the spheres are sufficiently small, the effective velocity of propagation may be less than the speed of propagation in the holding medium. If the radius of the spheres is sufficiently large the effective velocity of propagation may be greater than in the holding medium. This corresponds to the case where the speed of propagation of waves within the spheres is sufficiently large. For certain relations between the wavelength within the spheres and their dimensions and the corresponding frequencies, the effective velocity may be zero. The absorption in the above medium is due both to

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SOV-46-4-3-9/18

On the Effective Dynamical Parameters of Non-Homogeneous Media in the Propagation of Sonic Waves

the fact that the velocity of propagation is not real which gives an exponential absorption, and to the presence of reflection which depends on frequency. There is 1 figure, 1 table and 3 references, of which 2 are Soviet.

ASSOCIATION: Vsesoyuznyy n.-i. institut razvedochnoy geofiziki, Leningrad (All-Union Scientific Research Institute of Prospecting Geophysics, Leningrad)

SUBMITTED: January 28, 1957.

1. Sound--Propagation 2. Sound--Mathematical analysis

Card 3/3

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000721710018-4

AUTHOR: Khalfin, L. A.

TITLE: Condition of Origination and Criterion of Physical Existence in Classic Electrodynamics and Theory of Propagation of Signals (Usloviye prichinnosti i kriteriy fizicheskoy osushchestvimosti v klassicheskoy elektrodinamike i teorii rasprostraneniya signalov. I.)

PERIODICAL: Izvestiya Akademii Nauk SSSR, Seriya Geofizicheskaya, 1958, Nr 11, pp 1265-1278 (USSR)

ABSTRACT: The geophysical method of surveying rocks depends much on their property of dispersion which can be expressed as a relationship of the electrodynamic parameters of dielectric and magnetic permeability, conductivity and frequency. Dispersion in the homogeneous mediums is in direct proportion to the parameters of frequency. It is of a discrete nature as a result of its quantum mechanical character. As most of the rocks are of a heterogeneous composition, their dispersion and their precise determination can only be performed by taking into account all the effective parameters (1.1) and (1.2). Taking vector D as a functional, the relationships (1.2a), (1.2b), (1.2B) due to (1.3) can be considered as

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Condition of Origination and Criterion of Physical Existence in Classic Electrodynamics and Theory of Propagation of Signals

expressing the principle of the origination. In order to obtain the relations described for dispersion, the Fourier transformation is applied (1.4), (1.5), (1.6), (1.7a), (1.7b), (1.7B) and the parameters are represented in the general form as Eqs.(1.8a), (1.8b) and (1.8B). In this form they become limited, as can be shown in detail on the example of $\varepsilon(\omega)$ by the derivations (1.9), (1.10), (1.11), (1.12), (1.13) and by the analogy (1.14), (1.15). It is necessary to transform the integrals of the above relations so that $\omega \varepsilon (0, \infty)$, e.g. from (1.10) are arrived expressions (1.16) and (1.17). Therefore, the final form of the expression for dispersion of electrodynamic parameters will be (1.18), (1.19), (1.20). Apart from the dispersion there is another limiting factor affecting the origination, namely, the criterion of a physical existence. Its determination can be based on the example of the dielectric permeability $\varepsilon(\omega)$. The function $\tilde{K}_1(t)$ in Eq.(1.21) can be shown as (1.22) and (1.23). In order that these equations could be

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Condition of Origination and Criterion of Physical Existence in Classic Electrodynamics and Theory of Propagation of Signals

satisfied, the function $e(\omega)$ (representing the physical factor) should be applied with the elimination of $g(\omega)$. In order to do that, the principle of Paily and Winer (Ref 4) is applied and (1.24) obtained. Therefore, the necessary condition of the principle of origination (1.25) is the limiting integral (1.26), where $e(\omega)$ is the module of complex dielectric permeability $\bar{\varepsilon}(\omega)$. Similarly, (1.27) can be applied for $\bar{\mu}(\omega)$ and (1.28) for $\bar{\sigma}(\omega)$. These last three expressions can be called the criterion of physical existence. Due to the integral (1.26) it is possible to obtain two cases of convergence (1.29) and (1.30). Also if the theory of Paily and Winer is applied to $e(\omega)$, the equation (1.31) is introduced together with the limits (1.32), (1.33). It should be added that the integral (1.26) can be applied to any t_o, thus the criterion of physical existence can be considered as a general case. Therefore, in the case of $t_o = 0$ the functions (1.34) and (1.35) should be considered. Then (1.36) will take the form of (1.37) producing the function (1.38). Considering the analytical

Card 3/6

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Condition of Origination and Criterion of Physical Existence in Classic Electrodynamics and Theory of Propagation of Signals

function (1.39) the dispersion can be found from (1.40), thus the expression (1.41) can be considered instead of (1.13). From the Fourier transformations (1.1-I) the expression (1.42) can be found, by means of which (1.43) can be derived. By doing this, it is possible to separate experimentally $\varepsilon_1'(\omega)$ and $\varepsilon_2'(\omega)$ and the distinction between ε_2 and σ_1 or ε_1 and σ_2 will vanish. Now it becomes necessary to find a relationship between $\varepsilon_1'(\omega)$ and $\varepsilon_2'(\omega)$. This can be done from (1.11) by taking into account (1.44), thus obtaining (1.45). It could also be derived from (1.13), (1.15). The expression for dispersion (1.45), similarly to (1.18), can be derived as (1.46), (1.47) or (1.48), (1.49). The latter show a relationship between the effective conductivity and dielectric permeability which is of great importance for practical considerations. In order to enlarge on the relations (1.49) into the whole range of frequency $(0,\infty)$ it is only necessary to apply the derivations (1.50), (1.51), (1.52), (1.53). As an example a particular case

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Condition of Origination and Criterion of Physical Existence in Classic Electrodynamics and Theory of Propagation of Signals

can be described. Let $\tilde{\varepsilon}_{ef}(\omega')$ be constant in the integral $(0,\omega_1)$, then for $\omega < \omega_1$ in (1.49) the expression (1.54) can be derived. Similarly, (1.55) is found for ε_{ef} = const in (ω_2, ∞) and $\omega_2 < \omega < \infty$ in (1.49). If $\varepsilon_{ef}(\omega')$ = const in (ω_1, ω_2), then (1.56) can be found from (1.54) and (1.55) for $\sigma_{ef}(\omega)$. The relations (1.54), (1.55) are illustrated in Figs.1-6. Similarly, if σ_{ef} = const in $\omega' \in (0,\omega_1)$, then for $\omega < \omega_1$ in (1.49), the expression (1.57) can be found. If $\sigma_{ef}(\omega')$ = const in (ω_2, ∞), then ε_{ef} in (ω_2, ∞) is defined by (1.58). Finally, for $\sigma_{ef}(\omega')$ = const in (ω_1, ω_2) the ε_{ef} in the same interval is expressed by (1.59). The relations (1.57) to (1.59) are shown in Figs. 7-12. It can be added that in the cases where the relations expressed in the form (1.49) are not suitable for calculation, an application of modulation by means of the radio technical methods should be considered as

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Condition of Origination and Criterion of Physical Existence in Classic Electrodynamics and Theory of Propagation of Signals

more suitable.
There are 12 figures and 15 references, 7 of which are Soviet, 8 English.

ASSOCIATION: Vsesoyuznyy nauchno-issledovatel'skiy institut razvedochnoy geofiziki (All Union Scientific Research Institute of Exploratory Geophysics)

SUBMITTED: August 4, 1956

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